

**In the Claims:**

1-153.(Canceled)

154. (New) A human glucocerebrosidase protein which comprises the amino acid sequence set forth in SEQ ID NO: 8, wherein said human glucocerebrosidase protein is glycosylated and comprises at least one exposed mannose, at least one fucose having an alpha (1-3) glycosidic bond and at least one xylose, and is linked at its C terminus to a vacuolar targeting signal peptide as set forth in SEQ ID NO: 2.

155.(New) The human glucocerebrosidase protein of claim 154, wherein said human glucocerebrosidase protein is linked at its N terminus to an endoplasmic reticulum signal peptide.

156. (New) The human glucocerebrosidase protein of claim 155, wherein said endoplasmic reticulum signal peptide is as set forth in SEQ ID NO: 1.

157.(New) The human glucocerebrosidase protein of claim 156, comprising the amino acid sequence as set forth in SEQ ID NO: 14.

158.(New) The human glucocerebrosidase protein of claim 154, an increased affinity for, and uptake into macrophages, in comparison with the corresponding affinity and uptake of a recombinant human glucocerebrosidase protein produced in mammalian cells, and having glucocerebrosidase catalytic activity.

159.(New) The human glucocerebrosidase protein of claim 154, wherein said glucocerebrosidase protein is an isolated protein.

160.( New) A pharmaceutical composition comprising the human glucocerebrosidase protein of claim 154 and a pharmaceutically acceptable carrier.

161.(New) A plant cell expressing the human glucocerebrosidase protein of claim 154.

162.(New) A plant cell expressing the human glucocerebrosidase protein of claim 155.

163.(New) The plant cell of claim 161, wherein said plant cell is a carrot cell.

164.(New) The plant cell of claim 162, wherein said plant cell is a carrot cell.

165.(New) The plant cell of claim 161, wherein the main glycan structure of said glucocerebrosidase protein of said plant cell comprises at least one xylose residue and at least one exposed mannose residue, as measured by linkage analysis.

166.(New) A pharmaceutical composition comprising plant cells of claim 161 and a pharmaceutically acceptable carrier.

167.(New) The pharmaceutical composition of claim 166, wherein said plant cells are carrot cells.